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Medicine in Perspective

An American Physician in Rural West Africa

WILLIAM L. MINKOWSKI, MD, MPH, *Los Angeles*

SHARING HEALTH CARE EXPERIENCES in varied medical settings may enlighten and even entertain. In 1976 and 1977 I worked as a primary care physician in Taabo, Ivory Coast, the construction site of a major hydroelectric project. With a surgeon and two American nurses in a 15-bed hospital, we provided comprehensive health services to a large African and small European population. The extent of those services was limited both by the finiteness of our own skills and those of our African staff and, importantly, by the distance between our isolated site and the capital city, Abidjan, 300 km to the south. The style of those services was typically American. Two years later, in November and December 1979, I volunteered to work in a Spanish Catholic mission hospital with 100 beds in the bush country of Southwest Province, Cameroon. There, too, health care had its limitations, resulting from our experiential backgrounds and an often impassable 200-km dirt road that linked us with the closest major urban center. My exposure to both hospitals, to hundreds of patients who had known health care only by a village healer or at a government center, together with visits to several national health service hospitals, provided an opportunity to compare the organization and content of African with Western medical care programs, an opportunity at once instructive and humbling. What follows are some selected, necessarily abbreviated observations based on those experiences.

Dr. Minkowski is now with the Los Angeles County Department of Health Services.

Reprint requests to: William L. Minkowski, MD, MPH, 2415 Micheltorena Street, Los Angeles, CA 90039.

By American standards Ivory Coast and Cameroon are poor countries. By African standards each is relatively prosperous, enjoying the natural resources and productivity of dense forest belts, rivers and variably fertile savannah soils. Moreover, on a continent whose governmental birth and death rates have been staggering, both countries have known remarkable political stability since achieving their independence within the last two decades. Each is intent on developing its industrial and cash crop potential, with small commitments to rural health care programs. In Taabo, Ivory Coast, our small community arose, de novo, with paved streets, river water made safely potable, indoor plumbing and an always erratic supply of electric power. In contrast, Nguti, Cameroon, the prototype of an African village of thatched roof huts with dirt floors, has no safe water, plumbing or electricity. Its physical setting is exquisite, a well-rivered valley surrounded by heavily forested hills sheltering rich mammalian, reptilian, avian and insect populations. Both communities are at the same latitude, sharing similarly high temperatures, rainfall and humidities.

With its 100 beds the mission hospital in Nguti has only one general practitioner, a young Nigerian trained in Italy, and a nurse/technician staff of 11 Spanish Sisters and Brothers of the Order of St. John of God. The physician works six full days and is on call every Sunday. He has full responsibility for all medical and surgical care. His annual vacations leave the hospital without a replacement. In his absence the nurses provide services whose scope is defined by their courage to respond to patient needs. With fore-

sight the doctor takes his holiday in August, the wettest month of the year, when potholed roads discourage all but pedestrian traffic to the hospital.

Although the belief is still widely held that medical practice in tropical Africa consists largely of treating exotic parasitic diseases, in reality it encompasses the full gamut of human illness. There are, to be sure, some significant differences in experience with disease between rural Africans and a Western population—the Africans often have a marginal nutritional status; they lack the amenities of sanitation that protect efficiently against infections borne by food, water and soil; they retain a strong faith in the healing powers of both native shamans and indigenous medications, a belief that often entails perilous delays in seeking more modern health care when that is available; and, too, they have little, if any, experience with preventive care. Although most Westerners have little knowledge of schistosomiasis, onchocerciasis, leprosy and a host of other diseases endemic to tropical regions, Africans are not less familiar with tuberculosis, asthma, measles, venereal disease or hypertension.

Because modern health care is unknown to most rural Africans, it is not unusual to find adult men and women who have never seen a thermometer, nor had a stethoscope applied to the chest, much less ever known a pelvic or rectal examination. Physicians are scarce, widely scattered among the few cities and absent in the villages of the forest and savannah. A system of health care stations run by nurses or nurse-midwives is sparsely dispersed. At these clinics itinerant government doctors make erratic visits. Ambulances are few, in unreliable repair and often too distant from a medical center to be useful. Rural African hospitals are found only in the few larger communities, not easily accessible to large numbers who must walk, make use of the bush taxi system or be carried if they live far from the few roads serviced by these vehicles. These institutions bear little resemblance to those familiar to us. Striking some balance between them and our Western counterparts are the Christian mission hospitals, where physicians have been recruited from Western countries. They work with hand-me-down equipment and unreliable lines of supply. The most notable outward contrast with Western hospitals is an apparent indifference to sanitation. Our concerns for cleanliness may be compulsive, but grossly dirty floors and walls that welcome cockroaches and lizards, torn, soiled mattresses often without linen, and the occasional multiple occupancy of beds in government hospitals are scarcely compatible even with modest standards of hygiene. Add visiting families sitting, eating and sleeping on the floor, children, remarkably well behaved but at times depositing their excrement on the bed or floor, and the total picture of septic precaution is a dismal one. On the other hand, these African hospitals are keenly sensitive to the exigencies of poverty as well as to the culturally rooted needs of families to share in the care of their own sick. Beyond the element of hygiene there are other health care differences that further widen the gulf between our systems.

Animism, the predominant rural African religion, often interferes with acceptance of using modern medical services. It fosters strong concessions to the influence of supernatural forces in the final outcome of illness. Supported by the importunings of our trained African nurses in Ivory Coast, we were occasionally able to discourage the premature departure of some patients seeking therapeutic confirmation from a village healer. Yet, even among these competent professionals there still clung vestiges of their ancestral beliefs in shaman power, which diluted the persuasiveness of their arguments. Lest one too hastily impute a pejorative primitiveness to such behavior, parallel appeals to the divine or occult are not infrequent in Western societies.

Pregnancy and childbirth are regarded and managed differently in rural West Africa. Women with few exceptions are either unfamiliar with or unaccepting of the principle of birth control. As in other undeveloped countries with high mortality rates for infants and children, fertility is an invaluable asset. In such areas children are a form of insurance against the infirmities and dislocations of old age, a state whose definition must be viewed in the perspective of life spans averaging 40 to 45 years. Frequent were the comments of Ivorian and Cameroonian women that children cannot be regarded as permanent members of the family until they have survived the first six years. Thus, pregnancy and childbirth recur without planned interruption for the full reproductive life of women. My obstetric calls to a village were most often greeted by the cries of the newborn. The mother was already on her feet disposing of the placenta and grooming her infant. Only rarely did I arrive to clamp and cut the cord, to await

or gently aid the delivery of the afterbirth and to instill silver nitrate into the eyes of the child. For such services my unsolicited reward often was the generous gift of the local delicacy, a wickedly grinning, whole, cooked lizard, its long columns of sharp teeth effectively extinguishing the flickering fire of my gastronomic daring.

Community health hazards exist for everyone in rural Africa. In some measure, at times mercilessly, biting insects left their marks on all of us. Falciparum malaria is ubiquitous. Among the expatriates daily or weekly doses of chloroquine are almost always fully protective. The Africans' immunity either completely protects or mitigates the severity of infection. Schistosomal infestations are endemic in this region. For the foreigners, however, an unwarranted fear of crocodiles, water serpents and biting insects discourages all but essential work contacts with the slow-moving waters of rivers that harbor the cercariae. Despite the existence of large numbers of venomous snakes and scorpions and the widely admitted fears of inadvertent encounters with them in gardens and along walking trails in the forest, I saw very few bites from these sources. None had serious consequences. The night soil hazard for the Africans improved as they began to use toilets provided in a worker village at the dam site in Ivory Coast. However, squatting bodies at dusk and dawn were mute evidence that not all the Africans are yet prepared to adopt this change in life-style. One environmental health problem that defies geographic limits is that of alcohol. Among the Africans the traditional drink is palm wine, derived from the sap of the palm tree. Standing as cogent evidence of its universal popularity are the graveyards of topless, lifeless palms whose juices have been carefully tapped for this beverage. As the more potent Western products flow beyond the urban centers, rural health problems related to alcohol increase. I had experience with a single death from acute intoxication and one case of delirium tremens.

Life at a rural African hospital would have a nightmarish quality for the administrator of its American counterpart. With a reputation for sanitation, solicitous, competent and inexpensive care unmatched in Cameroon, the St. John of God Hospital in Nguti daily plays host to visitors deposited by bush taxis or who arrive on foot. Admission standards require no disclosure of adequate cash or private health insurance coverage. It is far less the gravity of an illness than the need for a bed that dictates inpatient status. Less than 35 percent of the bed patients whom I cared for daily merited inpatient care. The explanation is rooted in the location of mission hospitals in small communities. Regarded as superior to government institutions they attract the sick from all areas of the country. Because hostel facilities do not exist outside the few major cities, these hospitals have little choice but to admit almost everyone who seeks their care. Outpatient service is offered to those who live nearby. The cost of a room is nominal, about 75 cents in a 10-bed ward, twice that for a private bed. To those for whom these prices are excessive, admission is not denied. There is no additional charge for the non-ill spouse and children who accompany the patient and settle down under his or her bed. The cost of major surgery is about 35 dollars. Linen is changed once a week, more often if washed by a patient's family. Few rooms contain a lavatory. None has a toilet. All water is untreated, piped directly from a forest stream 2 km away. It is never tested for coliform organisms yet has never caused an outbreak of enteric disease. Glass needles and syringes are autoclaved after each use. In government hospitals multiple injections are common between sterilizations of equipment.

The control of human traffic within rural hospitals is virtually impossible because families are expected to serve many of the physical needs of their sick members: bathing the bedridden, emptying bedpans, mopping up the soils of visiting infants, encouraging adherence to schedules of orally given medications left by nurses at the bedside and, above all, feeding patients. Also, because no government or mission hospital offers food other than the parenteral variety, the nourishment of the sick depends entirely on visitors. In our American-style Ivory Coast hospital, meals were served by the project's commissary. These Western meals were not infrequently rejected by Africans for more familiar foods prepared by the family. Every rural hospital provides for the family cooks. Stone fireplaces are quickly assembled from local materials. Women and children are the traditional wood gatherers, finding windfall logs abundant in the adjacent forest. Foodstuffs are purchased each day in the village markets. The staples of rural West African diets include the root crops, a few vegetables, rice, maize, fruits and small amounts of wild game and

fish. Bread and ground nuts (peanuts) are abundant, too, the latter adding many essential nutrients to their fare.

Apart from clinical improvement the best guarantee of patient compliance with prescriptive instructions is the unshakable reverence of Africans for the efficacy of anything coming from a medicinal container. As in many Eropean countries, here, too, the guiding principle of drug therapy is that more is better. At our American hospital in Ivory Coast I battled constantly with Italian and French expatriates who found my spartan medicinal recommendations unacceptable. My Nigerian colleague at the mission hospital in Cameroon had learned his prescriptive habits in Milan. Every patient beyond infancy is first introduced to a wide assortment of drugs in the admitting room. Singly or in combination these provide iron, vitamins, chloroquine, nonsteroidal antiinflammatory agents, parenteral penicillin, digestive enzymes, bicarbonate, antispasmodic and anthelminthic agents, liver protectors, general antiseptics and tetracyclines. Once installed in bed the drug scene reaches its zenith with the wish to give and to receive doubly fulfilled. Every somatic complaint is rewarded with the chemical promise of swift cure from the pharmacy's therapeutic cornucopia. No committee exists to monitor the medicating predilections of the hospital's lone physician. It would be a too facile criticism, albeit justified, to charge him with indiscriminate drug dispensing habits. The practice is deeply ingrained in the European and African style of medical care. Moreover, the total responsibility for all patients in a hospital with 100 beds unavoidably denies him the luxury of that painstaking pursuit of causes that ultimately permits prescriptive precision.

In the rural hospital it is the laboratory that offers the best hope of a specific diagnosis. Microbiology and hematology are its primary strengths. Sophisticated studies of cultures, biopsy specimens and biochemical panels are rarely available. Our mission hospital in Nguti imposed formidable handicaps on its technologist, granting him only eight hours per day of electric power and a small gas-fueled refrigerator. His practical repertory comprised about ten routine tests. Whatever the presenting complaint, all patients were analyzed in the same way, on the assumption that adults, at least, share an identical disease pool. With only a nonspecific test for syphilis available in a region endemic for liver disease, almost every adult has a reactive serologic test result. The hospital policy is to treat everyone with a positive VDRL. For every man a urine specimen is sedimented, smeared and Gram-stained for gonococci and for every woman a vaginal specimen is Gram-stained as well. Positive smears for gonorrhea are found in about 45 percent of all adults, reflecting an open sexual culture that makes no use of the condom. For both syphilis and gonorrhea the same dose of aqueous penicillin is given intravenously for ten days. Neither benzathene penicillin G nor ampicillin is used for treating these venereal infections.

Africans show a strong preference for the mission hospital when a choice exists. The basis for this attitude is their perceptions of a quality of humaneness without denominational difference among the mission hospitals as opposed to one of calloused indifference prevading government centers. The many patients whom I queried about local physicians in these hospitals share both the view that doctors are preoccupied with developing private practices and the common experience of having to offer an illicit payment to outpatient staff for the privilege of consulting a doctor rather than a nurse. Yet another compelling attraction of the mission hospitals is their usually well-stocked storeroom of medications and supplies, a vital part of the support system of the parent churches in Europe and the United States. These are offered to patients either at cost or without charge. Government hospitals dispense only prescriptions, which must be filled at private, more costly pharmacies.

Preventive medicine is virtually nonexistent in these countries. Prenatal care by midwives is offered at scattered clinics. Immunizations are a variable part of their services. A single injection of tetanus toxoid for the newborn is given with greatest consistency. Children born in isolated villages are at high risk of tetanus as a consequence of the widespread custom of cauterizing the cut umbilical cord with dung-contaminated soil.

The variety of human disease, both verified and presumptive, seen in rural West Africa, covers a wide spectrum. In approximately decreasing order of frequency I observed the following: intestinal parasites, led by hookworm, ascariasis and trichocephaliasis; the venereal infections; onchocerciasis; secondary anemias; hernias, most often

inguinal, not infrequently enormous and incarcerated (see Figure 1); musculoskeletal disorders; wound infections; hypertension; clinical malaria and filariasis. The usual childhood diseases, as elsewhere, have their seasonal incidences in West Africa and there make the single largest contribution to infant mortality. I missed the season in Cameroon but in Ivory Coast experienced intimately the gravity of measles and pneumonia.

There are differences in disease endemicity between the two countries for reasons that are not clear. In both I worked at 5 degrees of latitude north of the equator in forested zones with high rainfall. Life-styles are not less primitive in one than in the other. Commonly seen in the rain forests of Ivory Coast, rarely or not at all in those of Cameroon, are onchocerciasis, guinea worm, yaws (Figure 2), goiter (Figure 3), and the sexually transmitted chancroid and lymphogranuloma venereum infections. Even less explicable are the sharply delineated zones of endemicity within a small area of one country. For example, the tsetse fly is rarely seen in the village of Nguti, Cameroon. Less than 40 km to the east, within an apparently identical environment, this horned fly is abundant and with it trypanosomiasis is a major health problem.

My vote for the dramatic highlight on the stage of tropical diseases goes to guinea worm infestation (dracunculiasis). It begins with the casual, thirst-quenching sip of puddled rainwater containing the infected crustacean, *Cyclops,* and climaxes with the painful penetration of the skin of the lower extremities by the adult worm. Its diagnosis at a distance is possible in the limping man presenting with the forepart of a protruding white worm carefully wound about a matchstick designed to tease out its full length. It is the exiting worm that incites an intense, local inflammatory tissue response (see Figure 4), partially assuaged in the cooling water of a forest pool. This immersion provides the stimulus for the adult worm to discharge its eggs. Once again the scene is set for recycling.

My experiences with death were different from those at home. Sparing no age in rural Africa,

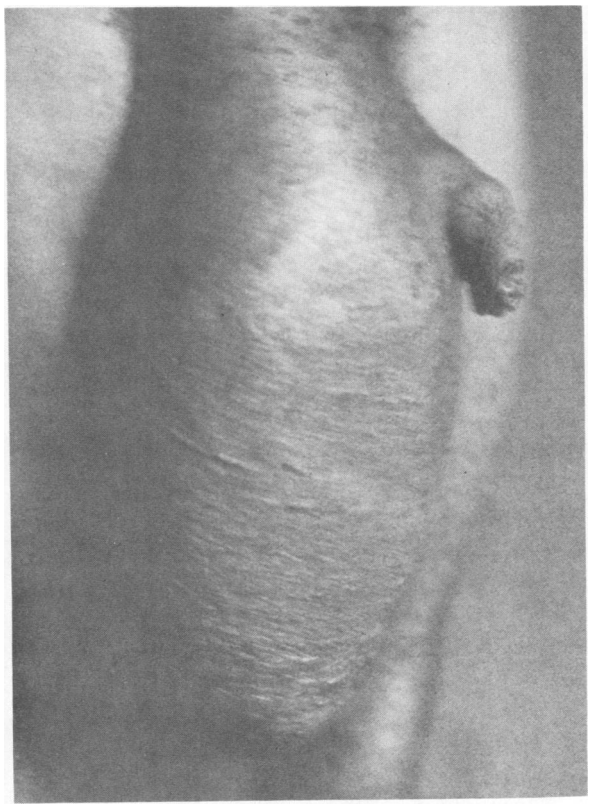

Figure 1.—An enlarged inguinal hernia.

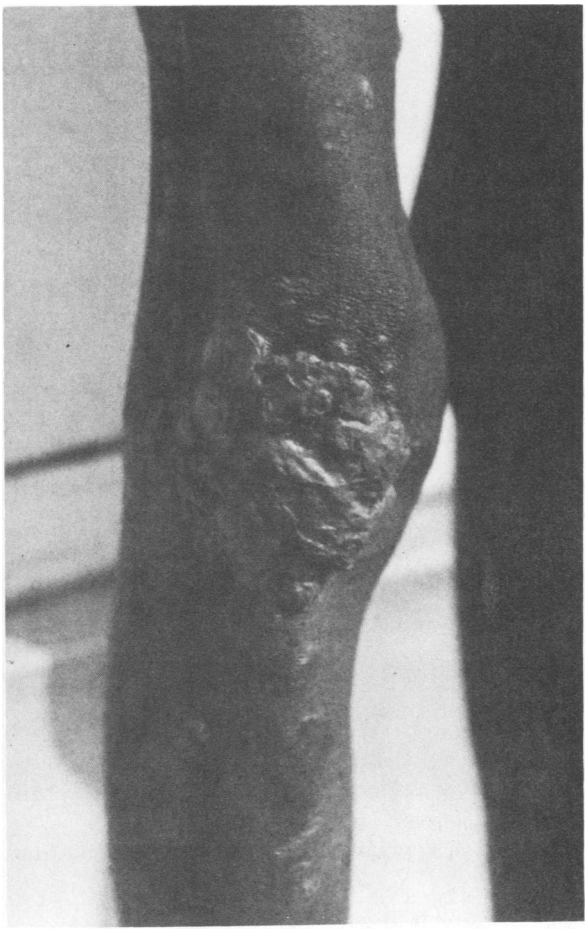

Figure 2.—A lesion of yaws.

death is regarded as an integral part of the continuum of life. It is an event that appears to be less threatening than for Westerners. Grief, as we know it, is brief and surely softened by the revelry of the wakes. The deceased are wrapped in sheeting by the hospital staff and, when possible, transported by the family on foot to the home village. For long distances a bush taxi may be hailed and marked as a hearse, not for hire, by decorating its front with palm fronds.

Figure 3.—A West African woman with goiter.

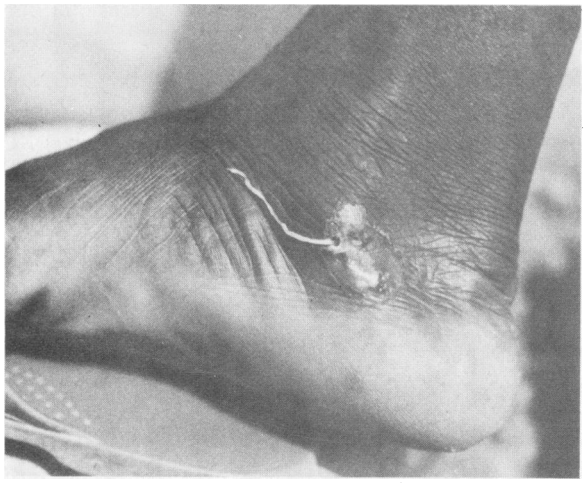

Figure 4.—Intense, local infection produced by a guinea worm. Forepart of the worm is protruding from the wound.

For visitors communication may pose a difficult problem. When a common language is shared, meanings may still be elusive. In Ivory Coast the national tongue is French, one in which my fluency permitted a clear exchange of information. In West Cameroon the official language is English, modified to Pidgin-English in the bush country. This dialect is more recognizable as an English variant by some familiar words than by its structure. At the St. John of God Hospital I had to lean heavily on the interpretive skills of the Sisters. Patient numbers compelled me to focus interrogation on the primary complaint. Most often our three-party system elicited information clearly, if slowly. On occasion a patient's answers were conveyed to me rather colorfully. For example, two common clinical symptoms in rural African males are diarrhea and impotence. My accompanying Sister-nurse, frocked from head to toe in the traditional garb of her Order, would receive the question about bowel habits from me. Her face beatifically innocent, she would ask the patient "You no de shit fine?" Or, from the same radiant countenance, in response to my question about sexual function, emerged her direct inquiry: "Your ting, it no wake up so fine?"

The total experience in Cameroon, brief as it was, and the longer one in rural Ivory Coast were richly rewarding personally and professionally. The exposure to pathologic conditions rarely, if ever, seen at home always provides a measure of excitement and challenge. The contacts with a population desperately in need of modern health services of all kinds and so grateful for the modest help of a caring foreigner provided the greatest of satisfactions. Not the least of my gains was the profoundly moving and humbling experience of an intimate view of the devotion to their patients of the Sisters and Brothers of the Order of St. John of God. There is, as well, that special pleasure stemming from close contact with a wholly unfamiliar culture. For those readers who would regard as adventure a shorter or longer brush with another world, the opportunities are legion in every undeveloped corner of the earth. The returns on a small investment of time and professional skill are nothing less than a bumper harvest of good will.